REMARKS

The application has been amended and is believed to be in condition for allowance.

Claims 1-18 and 20 remain in this application.

Claim 19 has been cancelled and therefore the drawing objection is moot. The continuously variable transmission is illustrated by Figures 1-12. Withdrawal of the drawing objection is solicited.

Claim 14 was amended to correct the noted informality. Claims 17-18 have been amended to depend from claim1.

Claim 17 was rejected under section 112, second paragraph as being indefinite.

Applicant respectfully disagrees in that the recited information was clearly indicated in the graph previously presented. However, it is recognized that superfluous information was included in the graph.

Therefore, claim 17 has been amended to remedy the stated basis of rejection. The graph from the previous amendment has been cancelled and a new graph inserted that remedies the stated basis of rejection.

More specifically, the unit of dimension of the contact angle (λ) has been moved to the left axis (previously shown on the right axis) and superfluous information removed. The graph now is consistent with the claim recitation of the contact angle

(λ) for the two pulley disks of a respective pulley has a value which corresponds, and in that for both the primary pulley (λp) and the secondary pulley (λs) the respective contact angle (λ) in relation to the transmission ratio (Rs/Rp) of the transmission at least substantially corresponds to the contour shown in the graph. This amendment adds nothing new that was not shown in the previous claim.

Withdrawal of the indefiniteness rejection is solicited.

Rejections Under 35 USC 103

Claims 1-20 stand rejected as obvious over DURUM 5,328,412 in view of BRANDSMA et al. 2003/0144097.

A declaration by Mr. Brandsma in compliance with 37 CFR 1.132 was previously filed. The present rejection makes no specific acknowledgement of that declaration and appears to disregard this declaration. The declaration was provided by a co-inventor of the BRANDSMA reference now being applied and should therefore be given significant weight.

In the paragraph spanning pages 2-3 of the declaration, the Mr. Brandsma declared that (emphasis added), "In my experience, the CVT configurations disclosed in BRANDSMA, e.g., Figures 4A, 4B, 5A, 5B, 6A, and 6B, at least as applied in and during operation of a practical CVT design, the clamping force ratio (KpKs) varies between **less than 1 in the largest transmission ratio 'Low'** up to more than 1.8 in the smallest

transmission ration 'Overdrive'". Also see Figure 8 of the present application relating to the known, prior-art transmissions (see specification page 11, lines 8-11).

Thus, the declaration is clear that in the largest transmission ratio "Low", the BRANDSMA CVT's have a clamping force ratio (KpKs) that is **less than 1**.

Specific to claim 1, Mr. Brandsma's declaration (page 3, first full paragraph) states (emphasis added) that "The configurations disclosed in BRANDSMA, e.g., Figures 4A, 4B, 5A, 5B, 6A, and 6B **do not provide** a contact angle (λ) that is adapted in relation to a radial position (Rp, Rs) where, in the largest transmission ratio 'Low', the clamping force ratio (KpKs) has a value in the range between 1 and the clamping force ratio (KpKs) in the smallest transmission ratio 'Overdrive'".

Notwithstanding this declaration, the Official Action, page 4, lines 10-12, states that BRANDSMA discloses "A clamping force ratio between the primary clamping force and the secondary clamping force has a value between 1 and the clamping force ratio in the smallest transmission ratio."

The Official Action cites to BRANDSMA paragraph [0002]:

> [0002] The CVT of the present type is generally known, for example from EP-A-0.950.837, and comprises a first adjustable pulley, a second adjustable pulley and an endless flexible belt, such as a push-type drive belt known from EP-A-0.962.679, a chain and the like, for transmitting torque between the pulleys at a variable

> transmission ratio. In the known CVT, with the application of a clamping force, the flexible belt is clamped at a continuously variable radial position between the sheaves of a pulley. To this end, at least one sheave of a pulley is axially movable. The lateral side faces of the flexible belt, which are intended for interaction with the sheave faces of a pulley, are mutually oriented at a belt angle, such that the flexible belt tapers radially inward. The sheaves faces of a pulley, which are intended for interaction with the lateral side faces of the flexible belt, are mutually oriented at a pulley angle, such that together the sheave faces of a pulley define a V-shaped groove. The clamping force applied for each pulley may be such that a state of equilibrium arises, wherein a transmission ratio of the CVT that is defined as the ratio of radial positions of the interaction between the lateral side faces and the sheave faces is constant. Departing from such a state of equilibrium, the transmission ratio may be continuously variably changed by increasing respectively decreasing the clamping force for each pulley, whereby the radial position of the interaction between the lateral side faces and the sheave faces may be changed for each pulley.

It appears that the Examiner has misunderstood the teaching of BRANDSMA by considering that "the state of equilibrium" mentioned in paragraph [0002] would relate to the clamping force ratio (the Official Action seeming to invent the term "a clamping force equilibrium").

Paragraph [0002] is consistent with the paragraph spanning pages 2-3 of the declaration, where Mr. Brandsma

declared that BRANDSMA discloses CVTs that during operation, the clamping force ratio (KpKs) varies between **less than 1 in the largest transmission ratio "Low"** up to more than 1.8 in the smallest transmission ration "Overdrive". Note that paragraph [0002] pertains to moving from one transmission ratio to another transmission ratio and does not address the contact angle provide a clamping force ratio at a particular equilibrium state, i.e., as recited in the claims.

The claims have been amended to make this more clear, i.e., the contact angle (λ) being adapted in relation to said radial position (Rp, Rs) provides that at least in the largest transmission ratio (Rs/Rp) and at least when the largest transmission ratio (Rs/Rp) is constant, … . This was previously in claim 5. No new matter is entered by way of this amendment.

There is no disclosure of "A clamping force ratio between the primary clamping force and the secondary clamping force has a value between 1 and the clamping force ratio in the smallest transmission ratio" in paragraph [0002]. The Official Action's statement is completely unsupported. Further, the Official Action's statement is directly contrary to Mr. Brandsma's declaration.

Absent evidence to the contrary, the Official Action must acknowledge that BRANDSMA does not disclose "the contact angle (λ) being adapted in relation to said radial position (Rp, Rs) provides that at least in the largest transmission ratio

(Rs/Rp), a clamping force ratio (KpKs) between the primary clamping force (Kp) and the secondary clamping force (Ks) has a value in the range between 1 and the clamping force ratio (KpKs) in the smallest transmission ratio (Rs/Rp)" as required by claim 1. Further, amended claim 1 is not taught.

Claim 1 requires the clamping force ratio (KpKs) in the largest transmission ratio to be at least 1. BRANDSMA does not disclose this. For at least this reason, claim 1 is non-obvious.

As to claims 2, 3 and 10, the Official Action states that "the [DURUM] CVT as modified [by BRANDSMA], appears to meet the limitations of the claim in that the clamping force in the primary and second pulley change depending on the running radius of the belt, and that the clamping force becomes smaller as the running radius of the drive belt increases."

Notwithstanding the statements made in the Official Action, BRANDSMA does not disclose that it was known to adapt the contact angle in relation to a radial position to provide the recited clamping force ratio, at the recited "smallest transmission ratio" or at the recited "all transmission ratios".

As to the recited numeric values, the Official Action has acknowledged that BRANDSMA fails to disclose the specific clamping forces of the pulleys. As such, there is clearly no teaching to obtain the recited values.

Claim 8 has been amended to clarify that for all transmission ratios, "a highest value for the contact angle (λ)

for the pulley disks in relation to said radial position (Rp, Rs) is higher for the pulley disks (21, 22) of the primary pulley (2) than the corresponding value for the contact angle (λ) for the pulley disks (31, 32) of the secondary pulley (3)". No new matter is entered by way of this amendment. DURUM does not disclose this feature.

As to claims 10-11, the Official Action makes general statements but does not assert that the feature actually recited is taught or suggested.

As to claims 12-13, the Official Action makes a general assertion that DURUM appears to meet the limitations, pointing to the VCT illustrated by Figure 1. However, there is no support provided, and applicant can find no support, for the features actually recited by these claims.

In view of the above, each claim is believed patentable.

Claim 14

The Official Action indicates that "it is understood that the friction force is greater at a radially inner most running radius than a radial outer most running distance."

This statement is entirely unsupported.

The rejection gives no indication of where DURUM might suggest this. Further, the recitation of claim 14 is (emphasis added) "wherein, at least when the transmission (1) is operating, **a coefficient of friction** between the primary pulley (2) and the

drive belt (10) in relation to a radial position (Rp) of a contact point therebetween has a lowest value at the location of a radially outermost position of said contact point".

The references do not make this disclosure. Therefore rejection this fails.

The rejection does not address the recited feature of claim 15. The references do not disclose the feature of claim 15. The rejection of claim also fails.

As to claim 16, the rejection points to DURUM Figure 1. However, this figure does not disclose the local radius of curvature, nor the surface roughness of the pulley discs. Claim 16 has been amended to make this feature more specific. No new matter is entered by way of this amendment.

Each of these claims are therefore patentable.

Any claim not discussed is believed patentable at least for depending from an allowable claim.

For all the foregoing reasons it is respectfully submitted that the claims presented are patentable. Reconsideration and allowance are requested.

This amendment is believed to be fully responsive to the Official Action.

Should there be any matters that need to be resolved in the present application; the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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